

## 2012 Lettuce Trials at University of Delaware REC, Georgetown, DE

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Four lettuce variety trials were planted at the University of Delaware Research Farm in Georgetown, Delaware in 2012. The seeding, transplant and harvest dates for each trial are listed below. Each trial was set up in a randomized complete block design with four replications. Rows were space 30 inches apart and transplants were spaced 12 inches apart in the row. Plots were ten feet long and contained ten plants. The trials were irrigated with traveling linear irrigation systems. Eight plants from each plot were harvested, leaving the first and last plants in the plot as a border. Weight, height and diameter of each harvested plant were measured in the Early Spring Trial. In the other three trials, the weight of each marketable plant was measured.

Trial	Seeding Date	Transplant Date	Harvest Began	Harvest Completed
Early Spring	February 22	March 30	May 18	June 8
Late Spring	April 2	May 8	June 20	June 28
Early Fall	June 29	July 27	September 17	September 17
Late Fall	July 16	August 15	September 26	October 15

### Results

Marketable yield, and head weight, height and diameter from the Early Spring Trial is presented in Table 1. Nearly all of the varieties looked very good in this trial, and the yields in Table 1 would be a good estimate of potential production for each variety under good growing conditions. Only two varieties had some bolting in the early trial: Alkindus and Roxy, however quite a few varieties in the early trial developed a bitter flavor.

Bolting and bitterness became more of a problem in the late spring trial, and taste was more formally evaluated for all varieties at the time of harvest for the late spring trial (Table 2). Taste was also evaluated for the fall trials. Only a few varieties maintained good flavor and did not bolt or had minimal bolting in all trials: Forlina, (*Butterhead*); Acropolis and Spartacus (*Iceberg*); Starfighter (*Leaf*); and Dov (*Romaine*). Several other varieties demonstrated some heat tolerance, resistance to bolting and reduced bitterness in either the late spring, or early or late fall trials: Harmony, Hungarina, and Skyphos (*Butterhead*); Excalibur and Keeper (*Iceberg*); New Red Fire (*Leaf*); Rubicon, Camino Verde, Rio Bravo and Musena (*Romaine*).

Photographs of many of the varieties in the trials, and a summary of their bolting and taste ratings are included at the back of this report.

**Table 1. Days to Harvest (After Transplanting), Harvested Head Weight, Height and Diameter, Percent Marketable and Yield of Varieties in the 2012 Early Spring Lettuce Variety Trial**

	Variety	Company	Color	DAT	Weight (g)	Height (cm)	Diameter (cm)	% Marketable	Yield in Early Spring Trial (lbs/row ft)**
BUTTERHEAD	Harmony*	Siegers	Green	59	426	19	29	100	0.938 defghijk
	Nerea	Siegers	Green	59	398	18	29	100	0.878 efghijkl
	Hungarina RZ*	Rijk Zwaan	Green	59	366	17	23	100	0.807 hijklmn
	SSC 2835	Shamrock	Green	59	370	18	26	97	0.788 ijklmno
	Forlina RZ*	Rijk Zwaan	Green	59	401	17	26	84	0.722 klmnop
	Skyphos*	Siegers/Rijk Zwaan	Red	59	317	19	25	100	0.699 klmnopq
	Rhapsody	Shamrock/Seedway	Green	59	335	17	25	94	0.695 klmnopq
	Santoro RZ	Rijk Zwaan	Green	54	307	18	26	100	0.677 klmnopq
	Roxy	Seedway	Red	67	347	20	19	66	0.519 pqr
	Alkindus	Siegers	Red	67	383	18	21	56	0.450 qr
ICEBERG	Excalibur	Shamrock	Green	67	661	16	17	100	1.456 a
	Spartacus*	Shamrock	Green	67	566	16	19	100	1.248 abc
	Acropolis*	Shamrock	Green	67	531	19	22	81	1.068 defgh
	Keeper*	Seedway/Siegers	Green	67	473	16	16	100	1.042 defghi
LEAF	Starfighter*	Siegers/Rijk Zwaan	Green	59	390	19	30	100	0.860 efghijklm
	Kremlin	Nunhems	Red	59	386	20	29	100	0.851 fghijklm
	Bergams Green	Siegers	Green	54	372	19	27	100	0.820 ghijklmn
	Tehama	Nunhems	Green	54	359	20	29	100	0.791 ijklmno
	Cherokee	Siegers	Red	67	334	18	20	100	0.736 jklmnop
	North Star	Nunhems	Green	54	284	18	24	100	0.625 lmnopqr
	Ruby Sky	Siegers/Rijk Zwaan	Red	54	274	19	24	100	0.603 mnopqr
	Red Tide	Nunhems	Red	54	263	23	27	100	0.580 nopqr
	Kodiak	Seedway	Green	54	254	18	25	100	0.560 nopqr
	New Red Fire*	Siegers	Red	54	226	19	25	100	0.498 pqr
ROMAINE	Dov*	Seedway	Green	67	643	24	25	97	1.380 ab
	Ideal Cos	Siegers	Green	67	571	26	27	100	1.259 abc
	Fresh/Heart	Siegers	Green	59	545	24	26	94	1.156 bcd
	Rubicon*	Siegers/Nunhems	Green	59	531	24	31	97	1.127 bcde
	Julius RZ	Rijk Zwaan	Green	67	521	25	21	97	1.113 bcdef
	Musena*	Siegers	Green	59	495	23	27	100	1.092 cdef
	Salvius RZ	Rijk Zwaan	Green	59	492	26	29	100	1.084 cdefg
	8893	Siegers	Green	67	498	25	20	97	1.049 defghi
	Beretta	Seedway	Green	59	462	25	27	100	1.019 defghi
	Rio Bravo*	Siegers	Green	59	452	26	24	100	0.997 defghij
	Stryker	Shamrock	Green	59	404	25	22	100	0.891 defghijkl
	Camino Verde*	Siegers	Green	59	414	23	24	97	0.890 defghijkl
	Exp. T12	Nunhems	Green	67	388	22	23	100	0.855 fghijklm
	Caitlin	Nunhems	Green	59	334	22	27	100	0.737 jklmnop
	Cuore	Nunhems	Lt Green	59	333	24	21	100	0.733 jklmnop
	1581 Calshot	Siegers	Red	67	290	29	18	100	0.639 lmnopqr
	SSC 3083	Shamrock	Green	67	372	23	22	63	0.604 mnopqr
	Jemez	Siegers	Green	70	253	20	18	100	0.568 nopqr
	Pomegranate Crunch	Seedway	Red	54	237	21	21	100	0.523 opqr
	Monte Carlo	Seedway	Green	54	173	17	15	100	0.382 r

\* indicates varieties with less tendency to bolt and develop bitter flavor in response to hot weather

\*\* p-value <0.0001, LSD=0.2696

**Table 2. Taste Rating for Late Spring, Early and Late Fall Lettuce Trials, and Bolting Rating for All Trials**

Variety		Company	Color	Taste Rating*		Bolting**			
				Late Spring	Fall	Early Spring	Late Spring	Early Fall	Late Fall
BUTTERHEAD	Forlina RZ	Rijk Zwaan	Green	1	1	n	n	n	n
	Harmony	Siegers	Green	2	2	n	n	y	y/n
	Hungarina RZ	Rijk Zwaan	Green	2	2	n	n	y	y/n
	Roxy	Seedway	Red	2	na	y/n	y/n	y	y
	Alkindus	Siegers	Red	3	na	y/n	y/n	y	y
	Rhapsody	Shamrock/Seedway	Green	3	na	n	n	y	y
	Santoro RZ	Rijk Zwaan	Green	3	na	n	n	y	y/n
	Skyphos	Siegers/Rijk Zwaan	Red	3	1	n	n	n	y/n
	SSC 2835	Shamrock	Green	3	na	n	n	y	y
	Nerea	Siegers	Green	4	4	n	y	y	n
ICEBERG	Acropolis	Shamrock	Green	1	1	n	n	n	n
	Excalibur	Shamrock	Green	1	na	n	n	y	y
	Keeper	Seedway/Siegers	Green	1	2	n	n	n	y/n
	Spartacus	Shamrock	Green	1	1	n	n	n	y/n
LEAF	Starfighter	Siegers/Rijk Zwaan	Green	1	1	n	n	n	n
	New Red Fire	Siegers	Red	2	3	n	n	y	y/n
	Ruby Sky	Siegers/Rijk Zwaan	Red	2	na	n	y	y	y
	Red Tide	Nunhems	Red	2	na	n	y	y	y
	Kodiak	Seedway	Green	3	na	n	y	y	y
	Kremlin	Nunhems	Red	3	na	n	y	y	y/n
	Bergams Green	Siegers	Green	4	na	n	y	y	y
	Cherokee	Siegers	Red	4	na	n	y	y	y
	North Star	Nunhems	Green	4	na	n	y	y	y/n
	Tehama	Nunhems	Green	4	na	n	y	y	y
ROMAINE	Dov	Seedway	Green	1	2	n	n	y/n	y/n
	Rubicon	Siegers/Nunhems	Green	1	na	n	n	y	y
	Camino Verde	Siegers	Green	2	na	n	y	y	y
	Rio Bravo	Siegers	Green	2	na	n	y	y	y
	8893	Siegers	Green	3	na	n	n	y	y
	Monte Carlo	Seedway	Green	3	4	n	n	y	y/n
	Pomegranate Crunch	Seedway	Red	3	4	n	y	y	y
	Stryker	Shamrock	Green	3	na	n	n	y	y
	Cuore	Nunhems	Lt Green	3	2	n	n	y	n
	Caitlin	Nunhems	Green	3	na	n	n	y	y/n
	1581 Calshot	Siegers	Red	4	na	n	y	y	y
	Beretta	Seedway	Green	4	na	n	y	y	y
	Fresh/Heart	Siegers	Green	4	na	n	y	y	y
	Ideal Cos	Siegers	Green	4	na	n	y	y	y
	Jemez	Siegers	Green	4	na	n	n	--	--
	Julius RZ	Rijk Zwaan	Green	4	na	n	y	y	y
	Musena	Siegers	Green	4	2	n	n	y/n	y/n
	Salvius RZ	Rijk Zwaan	Green	4	na	n	y	y	y
	SSC 3083	Shamrock	Green	4	na	n	y	y	y
	Exp. T12	Nunhems	Green	4	na	n	y	y	y

\*1=good taste with no bitterness or only slight bitterness; 2=bitterness could be disguised with sweet dressing, still edible; 3=I would be disappointed if I paid for this; 4=only for customers you never want to see again

\*\* n=no bolting, y/n=some bolting, some not bolting, y=complete or nearly complete bolting



Varieties in the 2012 Lettuce Variety Trials



**Forlina RZ**

Butterhead *Rijk Zwann*

**Did not bolt in spring or fall trials and maintained good taste.**



**Harmony**

Butterhead *Siegers*

**Did not bolt in spring trials, some bolting in fall. Taste was acceptable in spring and fall.**



**Skyphos**

Butterhead *Siegers/Rijk Zwaan*

**Did not bolt in spring trials, some bolting in fall. Taste was not acceptable in late spring but good in fall.**



**Hungarina**

Butterhead *Rijk Zwaan*

**Did not bolt in spring trials, some bolting in fall. Taste was acceptable in spring and fall.**



Varieties in the 2012 Lettuce Variety Trials

Green butterhead type.



**Rhapsody**

Butterhead *Shamrock/Seedway*

**Did not bolt in spring trial, but did bolt in the fall.  
Taste was not acceptable in late spring.**

**Santoro RZ**

Butterhead *Rijk Zwaan*

**Did not bolt in spring trial, but did bolt in the fall.  
Taste was not acceptable in late spring.**



Red butterhead type similar to Skyphos.

**SSC 2835**

Butterhead *Shamrock*

**Did not bolt in spring trial, but did bolt in the fall.  
Taste was not acceptable in late spring.**

**Roxy**

Butterhead *Seedway*

**Some bolting in all trials with excessive bolting in  
the fall. Taste was acceptable in late spring.**



Varieties in the 2012 Lettuce Variety Trials



**Alkindus**

Butterhead Siegers

Some bolting in all trials with excessive bolting in the fall. Taste was not acceptable in late spring.



**Nerea**

Butterhead Siegers

Bolted in late spring and early fall trials. Taste was not acceptable in spring or fall.



**Acropolis**

Iceberg Shamrock

No bolting in spring or fall trials with good taste in spring and fall.



**Spartacus**

Iceberg Shamrock

No bolting in spring trials or early fall trial, some bolting in late fall trial. Good taste in spring and fall.



Varieties in the 2012 Lettuce Variety Trials



**Keeper**

Iceberg Seedway/Siegers

**No bolting in spring trials or early fall trial, some bolting in late fall trial. Good taste in spring and acceptable taste in fall.**



**Excalibur**

Iceberg Shamrock

**No bolting in spring trials but excessive bolting in fall trials. Good taste in spring.**



**Starfighter**

Leaf Siegers/Rijk Zwaan

**No bolting in spring or fall trials with good taste in spring and fall.**



**New Red Fire**

Leaf Siegers

**No bolting in spring trials but did bolt in fall trials. Acceptable taste in spring, but not acceptable in fall.**



Varieties in the 2012 Lettuce Variety Trials



**Ruby Sky**

Leaf Siegers/Rijk Zwaan

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was acceptable in spring trials.**



**Red Tide**

Leaf Nunhems

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was acceptable in spring trials.**



**Kodiak**

Leaf Seedway

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was not acceptable in the late spring trial.**



**Kremlin**

Leaf Nunhems

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was not acceptable in the late spring trial.**



Varieties in the 2012 Lettuce Variety Trials



**Bergams Green**

Leaf Siegers

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was not acceptable in the late spring trial.**



**Cherokee**

Leaf Siegers

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was not acceptable in the late spring trial and marginal in the early spring trial.**



**North Star**

Leaf Nunhems

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was not acceptable in the late spring trial.**



**Tehama**

Leaf Nunhems

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was not acceptable in the late spring trial.**



# Varieties in the 2012 Lettuce Variety Trials



**Dov**

Romaine *Seedway*

**No bolting in the spring trials, but some bolting in the fall trials. Taste was good in the spring and acceptable in the fall.**



**Rubicon**

Romaine *Siegers/Nunhems*

**No bolting in the spring trials, but it did bolt in the fall trials. Taste was good in the spring trials.**



**Camino Verde**

Romaine *Siegers*

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was acceptable in the spring trials.**



**Rio Bravo**

Romaine *Siegers*

**No bolting in early spring trial but did bolt in late spring and both fall trials. Taste was acceptable in the spring trials.**



Varieties in the 2012 Lettuce Variety Trials



**Musena**

Romaine Siegers

**No bolting in the spring trials, but some bolting in the fall trials. Taste was not acceptable in the late spring trial but was acceptable in the fall trials.**



**Cuore**

Romaine Nunhems

**No bolting in the spring trials or the late fall trial, but it did bolt in the early fall trial. Taste was not acceptable in the late spring trial but was acceptable in the fall.**



**8893**

Romaine Siegers

**No bolting in the spring trials but it did bolt in both fall trials. Taste was not acceptable in the late spring trial.**



**Monte Carlo**

Mini Romaine Seedway

**No bolting in the spring trials but it did have some bolting in both fall trials. Taste was not acceptable in the late spring trial or in the fall.**



Varieties in the 2012 Lettuce Variety Trials



**Pomegranate Crunch**

Mini Romaine Seedway

No bolting in the early spring trial but it did bolt in the late spring and both fall trials. Taste was not acceptable in the late spring trial.



**Stryker**

Romaine Shamrock

No bolting in the spring trials but it did bolt in both fall trials. Taste was not acceptable in the late spring trial.



**Caitlin**

Romaine Nunhems

No bolting in the spring trials but it did bolt in both fall trials. Taste was not acceptable in the late spring trial.



**1581 Calshot**

Romaine Siegers

No bolting in the early spring trial but it did bolt in the late spring and both fall trials. Taste was not acceptable in the late spring trial.



Varieties in the 2012 Lettuce Variety Trials



**Beretta**

Romaine Seedway

**No bolting in the early spring trial but it did bolt in the late spring and both fall trials. Taste was not acceptable in the late spring trial.**



**Fresh/Heart**

Romaine Siegers

**No bolting in the early spring trial but it did bolt in the late spring and both fall trials. Taste was not acceptable in the late spring trial.**



**Ideal Cos**

Romaine Siegers

**No bolting in the early spring trial but it did bolt in the late spring and both fall trials. Taste was not acceptable in the late spring trial.**



**Jemez**

Romaine Siegers

**No bolting in either spring trial but taste was not acceptable in the late spring trial. Not tested in the fall due to poor germination**



Varieties in the 2012 Lettuce Variety Trials



**Julius RZ**

Romaine *Rijk Zwaan*

**No bolting in the early spring trial but it did bolt in the late spring and both fall trials. Taste was not acceptable in the late spring trial.**



**Salvius RZ**

Romaine *Rijk Zwaan*

**No bolting in the early spring trial but it did bolt in the late spring and both fall trials. Taste was not acceptable in the late spring trial.**



**SSC 3083**

Romaine *Shamrock*

**No bolting in the early spring trial but it did bolt in the late spring and both fall trials. Taste was not acceptable in the late spring trial.**

Green romaine type.

**Exp. T12**

Romaine *Nunhems*

**No bolting in the early spring trial but it did bolt in the late spring and both fall trials. Taste was not acceptable in the late spring trial.**